# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

### LAKE TROPHIC DATA

### MORPHOMETRIC:

Lake: HAWKINS POND	Lake Area (ha): 37.51
Town: CENTER HARBOR	Maximum depth (m): 10.0
County: Belknap	Mean depth (m): 3.4
River Basin: Merrimack	Volume $(m^3)$ : 1270500
Latitude: 43°41'25" N	Relative depth: 1.5
Longitude: 71°33'32" W	Shore configuration: 1.34
Elevation (ft): 601	Areal water load (m/yr): 5.71
Shore length (m): 2900	Flushing rate $(yr^{-1})$ : 1.70
Watershed area (ha): 440.3	P retention coeff.: 0.63
<pre>% watershed ponded: 1.3</pre>	Lake type: natural w/dam

BIOLOGICAL:	5 March 1998	16 July 1997
DOM. PHYTOPLANKTON (% TOTAL) #1	SYNURA 85%	DINOBRYON 40%
#2		ASTERIONELLA 30%
#3		SYNURA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		8.94
DOM. ZOOPLANKTON (% TOTAL) #1	LRG RND CILIATE SPP 65%	KELLICOTTIA 47%
#2	KERATELLA 15%	NAUPLIUS LARVA 13%
#3	CYCLOPOID COPEPOD 10%	BOSMINA 7%
ROTIFERS/LITER	21	99
MICROCRUSTACEA/LITER	10	61
ZOOPLANKTON ABUNDANCE (#/L)	94	167
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		2.5
BOTTOM DISSOLVED OXYGEN (mg/L)	0.3	0.0
BACTERIA (E. coli, #/100 ml) #1		55
#2		6
#3		

### SUMMER THERMAL STRATIFICATION:

#### stratified

Depth of thermocline (m): 3.7 Hypolimnion volume  $(m^3)$ : 102000 Anoxic volume  $(m^3)$ : 170750

CHEMICAL:			HAWKINS I	_	
	5 March	n 1998	16 3	July 1997	
DEPTH (m)	4.0	7.0	2.0	5.0	8.0
pH (units)	6.3	6.2	7.0	6.3	6.1
A.N.C. (Alkalinity)	8.0	8.8	4.9	6.8	10.1
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.10	0.30	0.30	0.40
TOTAL PHOSPHORUS	0.009	0.012	0.013	0.020	0.026
CONDUCTIVITY (µmhos/cm)	61.0	66.4	50.3	48.0	55.4
APPARENT COLOR (cpu)	30	37	18	19	44
MAGNESIUM			0.61		
CALCIUM			3.3		
SODIUM			4.9		
POTASSIUM			0.80		
CHLORIDE	9	11	7		7
SULFATE	4	4	4		3
TN : TP	33	8	23		15
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

### TROPHIC CLASSIFICATION: 1997

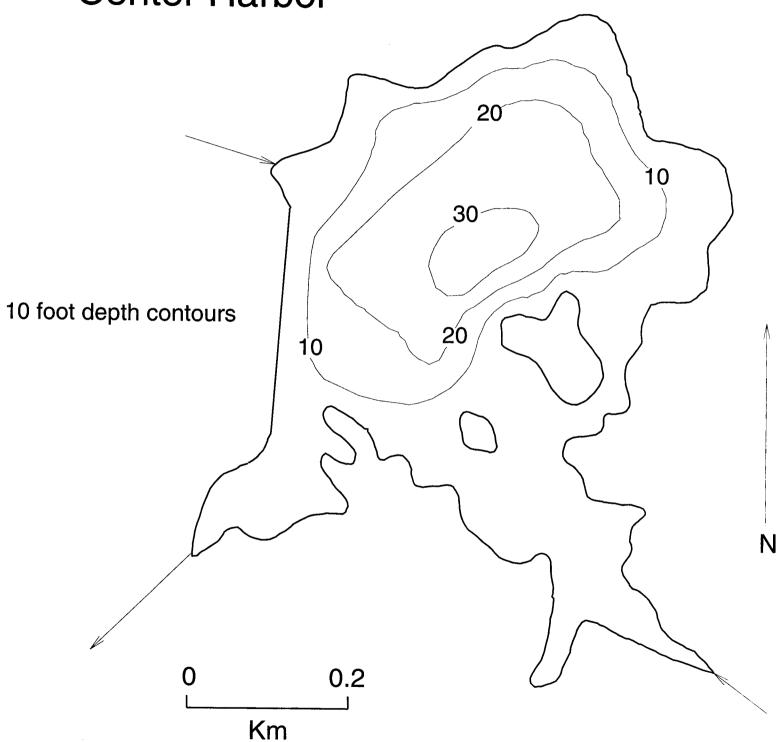
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	3	5	2	14	Eutro.

### **COMMENTS:**

- 1. This pond was previously surveyed in 1977 and was classified as eutrophic at that time too. There was little change in water quality over the 20 year period.
- 2. The hypolimnion volume was relatively small (8% of lake volume) but the entire hypolimnion was devoid of dissolved oxygen. In fact, the winter bottom D.O. was essentially zero, which occurs in less than 5% of the state's lakes and ponds.
- 3. Two boat ramps were available both near the dam. The F&G launch is a steep incline and has parking; the other ramp is less steep but with no parking.

# **Hawkins Pond**





## FIELD DATA SHEET

LAKE: HAWKINS POND TOWN: CENTER HARBOR DATE: 07/16/97 WEATHER: OVERCAST, HAZY & WARM

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.8	8.0	95 %
1.0	24.1	8.1	96 %
2.0	24.0	7.2	85 %
3.0	23.1	7.1	83 %
4.0	18.0	7.8	81 %
5.0	13.5	5.1	48 %
6.0	10.5	0.0	0 %
7.0	9.0	0.0	0 %
8.0	8.0	0.0	0 %
8.5	8.0	0.0	0 %

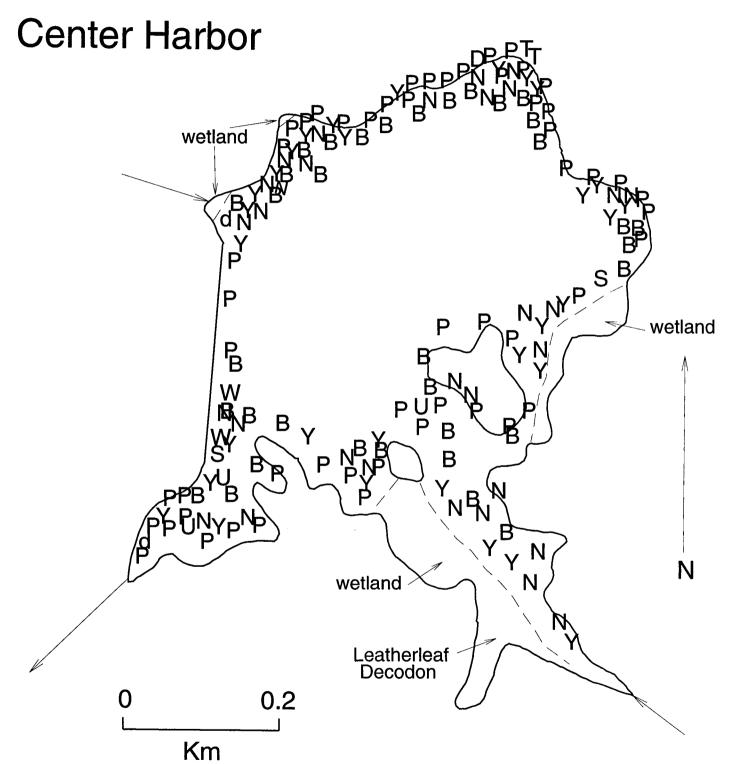
SECCHI DISK (m): 2.5 COMMENTS:

BOTTOM DEPTH (m): 8.9

TIME: 1120

\*Dissolved oxygen values are in mg/L

# Hawkins Pond



# AQUATIC PLANT SURVEY

LAK	E: HAWKINS POND	TOWN: CENTER HARBOR DAT	E: 07/16/97
Key	PLANT	NAME	ABUNDANCE
Key	GENERIC	COMMON	ABUNDANCE
N	Nymphaea	White water lily	Common
P	Pontederia cordata	Pickerelweed	Common
Y	Nuphar	Yellow water lily	Scattered
В	Brasenia schreberi	Water shield	Common
Ū	Utricularia	Bladderwort	Sparse
d	Dulichium arundinaceum	Three-way sedge	Sparse
S	Sparganium	Bur reed	Sparse
W	Potamogeton	Pondweed	Sparse
D	Decodon verticillatus	Swamp loosestrife	Sparse
Т	Typha	Cattail	Sparse
4			_

## OVERALL ABUNDANCE: Abundant

## GENERAL OBSERVATIONS:

- 1. Much of the shoreline is bordered by cattails, leatherleaf, *Decodon* and other wetland plants.
- 2. Two loons, one great blue heron and large snapping turtle were observed.